Specification Amendments

Please append the following paragraph to the Brief Description of the Drawings:

FIG. 8 is a logic flow of exemplary operation of the system for wireless communication of FIG. 1.

Please amend paragraphs 6-9 (pages 6-8) of the Detailed Description as follows:

Referring now to FIGS. 3, ~~and~~ 4, and 8, a method 100 for communicating in a wireless communication system which is adaptable for LA and IR is shown in accordance with the present invention. The adaptive rate base station transmitter and receiver 40 and 42 and the adaptive rate mobile station receiver and transmitter 44 and 46 may be used to implement the method 100 in accordance with the present invention. In the method 100, logical link control (LLC) protocol data units (PDUs) 102 are segmented into fixed length radio link control (RLC) blocks 104 (STEP 802) and a Cyclic Redundancy Check (CRC) sequence 106, which is preferably 12 bits in length, is added to each RLC block 104 (STEP 804). In combination, each RLC block 104 and its associated CRC sequence 106 is designated as an error coded RLC block 108. Each error coded RLC block 108 is encoded preferably using a rate 1/3 convolutional code 110. The output of the encoder, or encoded error coded RLC blocks 112, is interleaved and segmented (STEP 806), shown as block 114, into G Coded Sub-blocks 116 and 120, each coded sub-block being denoted in the figures as C_{ij}, j=1, ... G.

Values of G = 12 and 6 are shown in respective FIGS. 3 and 4. Those skilled in the art will readily comprehend with the assistance of this disclosure, that other values for G, such as 18, may be implemented in the present invention. Segmentation into 12 coded sub-blocks 116 (G = 12) enables code rates 1, 2/3, ½, 1/3, 4/5 and 4/7. Segmentation into 6 coded sub-blocks 120 (G = 6) enables code rates 1, 2/3, ½ and 1/3. As those of ordinary skill in the art will readily appreciate, G = 12 offers greater flexibility and efficiency with little, or no increase in complexity. As will be apparent below, the method 100, or transmission scheme, in accordance with one version of the present invention uses IR (D = 1) and thus, facilitates operation with or without the use of IR. As will be discussed further with respect to FIGS. 6A and 6B, a Coded sub-block Sequence Number (CSN), which is preferably 12 bits in length, is associated with each coded sub-block C_{ij}. A more detailed description of incremental redundancy techniques may be found in commonly assigned U.S. Patent Application Serial No. 09/225,910, filed on January [[1]] 5, 1999 and entitled "System and Method For Incremental Redundancy Transmission In A Communication System", the disclosure of which is hereby incorporated by reference.

Groups of the coded sub-blocks C_{ij} are assembled (STEP 808) to form Transmission Units (TUs), P_{ik} (FIGS. 3 and 4). Depending on the current code rate of the LA scheme, each TU P_{ik} may consist of G/3, G/2, 2G/3 or G consecutive coded sub-blocks associated with the same RLC block, which correspond to code rates of 1, 2/3, ½ and 1/3, respectively. The TUs P_{ik} are preferably of variable size. Thus, for G = 6 and for code rates 1, 2/3, ½ and 1/3, the TUs P_{ik} consist of 2, 3, 4, and 6 consecutive coded sub-blocks C_{ij}, respectively. If G = 12 and for code rates 1, 2/3, ½ and 1/3, the TUs P_{ik} consist of 4, 6, 8, and 12 consecutive coded sub-blocks C_{ij}, respectively.

As shown in FIG. 5, a method 300, or transmission scheme, is utilized on the downlink. In accordance with the downlink method 300, multiple TUs P_{ik} are combined with a media access control (MAC) header 302 (STEP 810) and an Uplink State Flag (USF) 304 to form a downlink segment 306 (STEP 812). Preferably, one or both of the MAC header 302 and the USF 304 are coded. The downlink segment 306 is interleaved (STEP 814) and transmitted (STEP 816) over four Global System for Mobile Communication (GSM) bursts 308, 310, 312 and 314. The number of TUs transmitted over the four 8-phase shift keyed (8-PSK) GSM bursts 308, 310, 312 and 314 is 6, 4, 3, or 2 for code rates 1, 2/3, ½, or 1/3 respectively.

Please amend paragraph 21 (page 10) of the Detailed Description as follows:

> The length of the coded first, second and third extended MAC header formats 412, 418, 426, 428 and 438 are each 129 bits. The formats 412, 418, 426, 428 and 438 are designed to accommodate additional CSN fields for retransmissions, as well as varying the amount of coding according to channel conditions. The coded short MAC header 400, which is 76 bits, is augmented (STEP 822) by 53 bits to get the coded extended MAC header formats. The additional 53 bits are obtained by dropping (STEP 820) one coded sub-block from the first TU in the a set of four GSM bursts carrying retransmissions. As will be described, each coded sub-block C_{ij} is 53 bits in length in accordance with the RLC block size.

Please insert the following paragraph after paragraph 35 (page 14):

> A system and method is provided for communicating in a wireless communication system which supports link adaptation or link adaptation and incremental redundancy. The invention provides link adaptation at multiple code rate by dividing fixed length RLC blocks 104 into coded sub-blocks ("C_{ij}"; STEP 806). CRC code 106 may be appended to the RLC blocks 104 for error detection (STEP 804). The sub-blocks C_{ij} are then grouped into transmission units P_{ik} for transmission (STEP 808). The number of sub-blocks C_{ij} in each group is varied to provide multiple code rates. Headers 400 are used to identify the transmission units being transmitted. In the case of retransmission, the transmission units may be expressly identified through extended headers 412, 418, 426, 428, 438, 500, 502, 504, and/or 506. One or more of the originally transmitted sub-blocks C_{ij} are dropped (STEP 820) and replaced (STEP 822) by the extended headers 412, 418, 426, 428, 438, 500, 502, 504, and/or 506 in the retransmission. Accordingly, the present invention provides for a retransmission code rate which may be different from the code rate at which the transmission units were originally transmitted.

Applicant respectfully notes that support for the above amendments is located in the Detailed Description (paragraphs 6-9, pages 6-8; paragraph 21, page 10) and the Abstract (page 22) of the originally filed application.